

ABSTRACT

A CCFL power converter circuit is provided using a high-efficiency zero-voltage-switching technique that eliminates switching losses associated with the power MOSFETs. An optimal sweeping-frequency technique is used in the CCFL ignition by accounting for the parasitic capacitance in the resonant tank circuit. Additionally, the circuit is self-learning and is adapted to determine the optimum operating frequency for the circuit with a given load. An over-voltage protection circuit can also be provided to ensure that the circuit components are protected in the case of open-lamp condition.